

## Logan County

### Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

5/24/2016

Using the most recent IMPLAN data available (2014) adjusted for 2016, 11 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Logan County economy.<sup>1</sup>

These 11 sectors have a total direct output of approximately **\$81.8 million** and support **290.8 jobs** in Logan County. Running the model for all 11 sectors simultaneously produces the following results:

Agriculture, Food, and Food Processing Sector Contribution to Overall Economy						
Impact Type <sup>2</sup>	Employment	% Employment	Total Value Added <sup>3</sup>	Total Value Added % of Gross Regional Product <sup>4</sup>	Output <sup>5</sup>	Output % of Gross Regional Product
Direct Effect	290.8	13.78%	\$28,485,987.84	24.11%	\$81,804,705.78	69.23%
Indirect Effect	74.1	3.51%	\$5,442,484.82	4.61%	\$10,139,262.30	8.58%
Induced Effect	42.3	2.00%	\$2,880,669.83	2.44%	\$5,356,327.48	4.53%
<b>Total Effect</b>	<b>407.2</b>	<b>19.29%</b>	<b>\$36,809,142.49</b>	<b>31.15%</b>	<b>\$97,300,295.56</b>	<b>82.34%</b>

As shown in the above table, agriculture, food, and food processing sectors support **407.2 jobs**, or **19.29%** of the entire workforce in the county. These sectors provide a total economic contribution of approximately **\$97.3 million**, roughly **82.34% of the economy**.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 11 agriculture, food, and food processing sectors is approximately **\$36.8 million**, or **31.15% of the GRP**. This indicates that personal income, business income, and taxes generated by these sectors account for **31.15% of the total economy**.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

<sup>1</sup> Article on building a contribution analysis in IMPLAN that avoids double counting:

[http://www.implan.com/index.php?option=com\\_content&view=article&id=660%3A660&catid=253%3AKB33&Itemid=70](http://www.implan.com/index.php?option=com_content&view=article&id=660%3A660&catid=253%3AKB33&Itemid=70)

<sup>2</sup> Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

<sup>3</sup> Value added = labor income + indirect business taxes + other property type income.

<sup>4</sup> GRP = final demand of households + governments expenditures + capital + exports - imports - institutional sales.

<sup>5</sup> Output = intermediate inputs + value added.

In the top ten agriculture, food, and food processing sectors by employment, the beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming sector is the top employer with **168.7 employees**. This table also shows the amount of jobs that are created by the agriculture industry in Logan County.

Top Ten Sectors by Employment		
Sector	Total Employment	Total Output
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	168.7	\$34,071,552.20
Grain farming	60.6	\$40,411,321.14
Support activities for agriculture and forestry	22.0	\$2,086,537.85
Wholesale trade	21.1	\$4,136,405.29
Commercial hunting and trapping	17.8	\$60,455.54
Veterinary services	14.5	\$1,290,252.04
Animal production, except cattle and poultry and eggs	12.7	\$2,557,068.10
All other crop farming	11.0	\$1,544,271.17
Truck transportation	8.8	\$1,206,375.76
Securities and commodity contracts intermediation and brokerage	5.4	\$530,230.66

The grain farming sector directly contributes approximately **\$40.4 million** to the Logan County economy. The table below also shows the amount of revenue that is generated in other industries by having a strong agriculture industry.

Top Ten Sectors by Output		
Sector	Total Employment	Total Output
Grain farming	60.6	\$40,411,321.14
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	168.7	\$34,071,552.20
Wholesale trade	21.1	\$4,136,405.29
Animal production, except cattle and poultry and eggs	12.7	\$2,557,068.10
Support activities for agriculture and forestry	22.0	\$2,086,537.85
All other crop farming	11.0	\$1,544,271.17
Owner-occupied dwellings	0.0	\$1,448,432.07
Veterinary services	14.5	\$1,290,252.04
Truck transportation	8.8	\$1,206,375.76
Oilseed farming	0.5	\$1,050,630.37

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture, food, and food processing sector and the output they contributed to the Logan County economy.

<b>All Agriculture, Food, and Food Processing Sectors</b>		
<b>Sector</b>	<b>Total Employment</b>	<b>Total Output</b>
Oilseed farming	0.5	\$1,050,630.37
Grain farming	60.6	\$40,411,321.14
Greenhouse, nursery, and floriculture production	1.0	\$315,656.79
All other crop farming	11.0	\$1,544,271.17
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	168.7	\$34,071,552.20
Poultry and egg production	0.0	\$6,833.01
Animal production, except cattle and poultry and eggs	12.7	\$2,557,068.10
Commercial hunting and trapping	17.8	\$60,455.54
Bread and bakery product, except frozen, manufacturing	4.1	\$479,257.95
Frozen cakes and other pastries manufacturing	0.1	\$17,407.46
Veterinary services	14.5	\$1,290,252.04

All 105 counties in Kansas have an IMPLAN model and an agriculture, food, and food processing contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Logan County, the retail sector was omitted.